

IN THE CLAIMS:

Please amend claims 1-2, 5-9, 11, and 19, cancel claims 3 and 4, and add new claims 20-38 as follows:

1. (Amended) An isolated nucleic acid molecule comprising a nucleic acid encoding a [TfR2] polypeptide having a sequence selected from the group consisting of:

(a) the amino acid sequence of SEQ ID NO: 1;

(b) an amino acid sequence encoded by at least the nucleic acid sequence of SEQ ID NO: 2;

(c) an amino acid sequence encoded by at least the nucleic acid sequence of SEQ ID NO: 3.

(d) an amino acid sequence encoded by a nucleotide sequence having at least 60% homology with the nucleotide sequence of SEQ ID NO: 2;

(e) an amino acid sequence encoded by a nucleotide sequence having at least 60% homology with the nucleotide sequence of SEQ ID NO: 3;

(f) an amino acid sequence encoded by a nucleotide sequence that will hybridize under moderate stringency conditions to the nucleotide sequence of SEQ ID NO: 2; and

(g) an amino acid sequence encoded by a nucleotide sequence that will hybridize under moderate stringency conditions to the nucleotide sequence of SEQ ID NO: 3

A1  
2. (Amended) ~~[The]~~ An isolated nucleic acid molecule of claim 1, wherein the nucleic acid molecule comprises a molecule selected from the group consisting of DNA, cDNA, and RNA.

5. (Amended) ~~[The]~~ An isolated nucleic acid molecule [of claim 2, wherein the DNA has substantially the same nucleotide sequence as the sequence set forth in SEQ ID NO:2 or SEQ ID NO: 3] comprising a nucleotide sequence selected from the group consisting of

(a) a nucleotide sequence having at least 60% homology with the nucleotide sequence of SEQ ID NO: 2;

(b) a nucleotide sequence having at least 60% homology with the nucleotide sequence of SEQ ID NO: 3;

A2  
(c) a nucleotide sequence that will hybridize under moderate stringency conditions to the nucleotide sequence of SEQ ID NO: 2;

(d) a nucleotide sequence that will hybridize under moderate stringency conditions to the nucleotide sequence of SEQ ID NO: 3.

6. (Amended) A recombinant expression vector comprising DNA of claim 2.

7. (Amended) A host cell [containing a] comprising the vector of claim 6, wherein the cell is selected from the group consisting of a procaryotic cell [or] and a eucaryotic cell.

8. (Amended) A host cell of claim 7, wherein the cell expresses a [functional TfR2 protein] a polypeptide having a sequence selected from the group consisting of:

(a) the amino acid sequence of SEQ ID NO: 1;

(b) an amino acid sequence encoded by at least the nucleic acid sequence of SEQ ID NO: 2;

(c) an amino acid sequence encoded by at least the nucleic acid sequence of SEQ ID NO: 3.

(d) an amino acid sequence encoded by a nucleotide sequence having at least 60% homology with the nucleotide sequence of SEQ ID NO: 2;

(e) an amino acid sequence encoded by a nucleotide sequence having at least 60% homology with the nucleotide sequence of SEQ ID NO: 3;

(f) an amino acid sequence encoded by a nucleotide sequence that will hybridize under moderate stringency conditions to the nucleotide sequence of SEQ ID NO: 2;

(g) an amino acid sequence encoded by a nucleotide sequence that will hybridize under moderate stringency conditions to the nucleotide sequence of SEQ ID NO: 3

9. Isolated mRNA complementary to the DNA of claim 2.

11. (Amended) An antisense oligonucleotide [capable of specifically binding

Amend to and inhibiting the translation of mRNA in claim 9] sufficiently complementary to the mRNA of claim 9 so as to inhibit its translation.

19. (Amended) A composition comprising an amount of the antisense oligonucleotide of claim 11 effective to modulate expression of [a TfR2] at least a polypeptide of claim 1 and an acceptable hydrophobic carrier capable of passing through a cell membrane.

Please add new claims 20-38 as follows:

21.24 24  
--24. The isolated nucleic acid of claim 1, wherein the nucleic acid encodes

(a).—

25 25  
--25. The isolated nucleic acid of claim 1, wherein the nucleic acid encodes

(b).--

26 26  
--26. The isolated nucleic acid of claim 1, wherein the nucleic acid encodes (c).-

27 27  
--27. The isolated nucleic acid of claim 1, wherein the nucleic acid encodes

(d).--

28 28  
--28. The isolated nucleic acid of claim 1, wherein the nucleic acid encodes

(e).--

29  
~~25~~. The isolated nucleic acid of claim 1, wherein the nucleic acid encodes (f).-

30  
~~26~~. The isolated nucleic acid of claim 1, wherein the nucleic acid encodes  
(g).--

31  
~~27~~. The isolated nucleic acid of claim 5, wherein the nucleotide sequence is  
(a).--

32  
~~28~~. The isolated nucleic acid of claim 5, wherein the nucleotide sequence is  
(b).--

33  
~~29~~. The isolated nucleic acid of claim 5, wherein the nucleotide sequence is  
(c).--

34  
~~30~~. The isolated nucleic acid of claim 5, wherein the nucleotide sequence is  
(d).--

35  
~~31~~. The vector of claim 6, wherein the vector is selected from the group  
consisting of a plasmid and a virus.--

36  
~~32~~. The vector of claim 31, wherein the vector is a virus selected from the

group consisting of simian virus 40 and bovine papilloma virus.--

21.24

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--33. A host cell comprising the vector of claim 6, wherein the cell is selected from the group consisting of a bacterial cell, a yeast cell, an insect cell, and a mammalian cell.--

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--34. The host cell of claim 22, wherein the vector is selected from the group consisting of a T7-based expression vector for expression in bacteria, a baculovirus-derived vector for expression in insect cells, and a pMSXND expression vector for expression in mammalian cells.--

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45  
--35. An isolated host cell comprising a nucleic acid selected from the group consisting of a nucleic acid of claim 1 and a nucleic acid of claim 5.--

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--36. An isolated host cell comprising nucleic acid selected from the group consisting of a nucleic acid of claim 1 and a nucleic acid of claim 5, wherein the nucleic acid is operatively associated with a regulatory sequence that controls gene expression.--

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--37. The isolated host cell of claim 35, wherein the regulatory sequence is a promoter.--

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--38. The isolated host cell of claim 37, wherein the promoter is selected from